

**Draft Summary of the Engineering and Operations Work Group Meeting
Oroville Facilities Relicensing (FERC Project No. 2100)
November 16, 2001**

The Department of Water Resources (DWR) hosted the Engineering and Operations Work Group on November 16, 2001 in Oroville.

A summary of the discussions, decisions made, and action items is provided below. This summary is not intended to be a transcript, analysis of the meeting, or to indicate agreement or disagreement with any of the items summarized, except where expressly stated. The intent is to present an informational summary for interested parties who could not attend the meeting. The following attachments are provided:

Attachment 1	Meeting Agenda	Attachment 16	Oroville Reservoir Cold Water Pool Evaluation
Attachment 2	Meeting Attendees	Attachment 17	Temperature Impacts of Pumpback Operations
Attachment 3	Flip Chart Notes	Attachment 18	Study Plan 1
Attachment 4	Proposed Modeling Scheme	Attachment 19	Study Plan 1a
Attachment 5	Study Plan Coordination	Attachment 20	Study Plan 1b
Attachment 6	Model Development	Attachment 21	Study Plan 1c
Attachment 7	Statewide Operations	Attachment 22	Study Plan 1d
Attachment 8	Local Operations	Attachment 23	Study Plan 1e
Attachment 9	Oroville Reservoir Temperature	Attachment 24	Study Plan 1f
Attachment 10	Thermalito Complex Temperature	Attachment 25	Study Plan 2
Attachment 11	Feather River Flow-Stage Temperature	Attachment 26	Study Plan 3
Attachment 12	Operations Related Studies	Attachment 27	Study Plan 4
Attachment 13	Potential for Additional Hydropower Generation	Attachment 28	Study Plan 6
Attachment 14	Flood Management	Attachment 29	Study Plan 7
Attachment 15	Downstream Control of Feather River Temperature	Attachment 30	Study Plan 8

Introduction

Attendees were welcomed to the Engineering and Operations Work Group meeting. The meeting objectives and action items were discussed. The meeting agenda and list of meeting attendees and their affiliations are appended to this summary as Attachments 1 and 2, respectively. Flip Chart notes are included as Attachment 3.

Action Items – July 31, 2001 Engineering and Operations Work Group Meeting

A summary of the July 31, 2001 Engineering and Operations Work Group is posted on the relicensing web site. The Facilitator reviewed the status of action items from that meeting as follows:

Action Item #EO20: Revise Issue Sheets and replace 'adequate' with 'maintain or enhance' on all recreation facilities and flood management Resource Goals.

Distribute Completed Issue Sheets to Engineering and Operations Work Group.

Status: Revised Issue Sheets were distributed electronically to the Engineering and Operations Work Group prior to the meeting and hard copies were available at the meeting.

Action Item #EO21: Prepare a flow chart for the Engineering and Operations Work Group depicting interrelations of all Issues Sheets.

Status: Ralph Torres, Resource Area Manager (RAM) from DWR reported that he had talked with the consulting team about developing a flow chart to track this information. He explained that all of the RAMs are working on a coordination graphic showing the conceptual framework that all the studies fit into, as well as relationships between studies both within Work Groups and between Work Groups. He stated that the meeting presentation today would cover some of the interrelations.

Action Item #EO22: Prepare a strategy for modeling coordination with Recreation & Socioeconomics Work Group for Economic and Environmental issues.

Status: Work on preparing the strategy and following through with it is continuing. Wayne Dyok of the consulting team has reviewed the output on reservoir levels. Recreation & Socioeconomics will be looking at effects on water level changes on recreation and will relate this information to socioeconomic effects. The Engineering & Operations Work Group is coordinating with these groups and they are putting Study Plans together. Ed Craddock with Butte County recommended that we keep track of the paper trail on these efforts as well as preparing a description of the strategy to address power economics issues. He also wanted to know who in the Socioeconomics Work Group would be leading this effort. Wayne responded that Doug Rischbieter is the RAM for the Recreation and Socioeconomics Work Group and he would provide a description of the strategy at the next Work Group meeting.

Action Item #EO23: Consider developing an appropriate 'bin' strategy for issue statements that do not generate studies.

Status: A White paper report will be required to provide the information necessary to resolve issues raised in the Engineering and Operations Work Group that do not require a study. Ed Craddock asked for clarification on what is being done in this or any other Work Group with regards to economics. Wayne Dyok identified Tom Wegge, an economist, as the consulting team lead for Socioeconomics. Tom is responsible for taking the effects of the project and translating them into dollars and cents for the local economy. We can then use this information and projected value of power in the future to develop different scenarios. Ed Craddock requested that the approach to power economics be summarized and provided to participants. The Facilitator explained that the Recreation and Land Use Task Force approached 'binning' by adding columns to Appendix B that include 'Potential Second Year Study', 'Potential Settlement Issue', 'Not a Relicensing Issue', etc. and then evaluating every issue from the master list. She added that this issue tracking effort has been expanded to include all Work Groups and will be provided at the December 11th Plenary Group meeting.

Action Item #EO24: Transfer Ron Davis' concerns regarding fish straying and economic contributions of fish to Recreation and Socioeconomics Work Group.

Status: Facilitator provided concerns to Dale Hoffman-Floerke. Wayne Dyok suggested that the Environmental Work Group would also consider this issue.

Action Item #EO25: Check with Comprehensive Study Group for possible presentation to Engineering and Operations Work Group.

Status: Ralph Torres spoke to the Study Group about this and they agreed to provide a presentation. Craig Jones of SWC requested that the Comprehensive Study Group and Yuba County hold a joint workshop on flood management in order to get an overall understanding of how our studies will integrate with the Comprehensive Studies. Ralph Torres agreed and offered to arrange and host a workshop on flood management

Task Force Update

The Engineering and Operations Work Group viewed presentations on the Task Force's preliminary draft Study Plans. Bill Smith of SWRI stressed the need to agree on drafts for all Study Plans in time for the December 11th Plenary Group Meeting.

A presentation on a proposed modeling scheme presented by Bill Smith at the October 3, 2001 Task Force meeting is included as Attachment 4.

Craig Jones of SWC's addressed the issue of reviewing documents prior to completion. It was agreed that some of the preliminary draft Study Plans will not be fully developed for many months and therefore it is not realistic that everyone approve every word. Craig Jones expressed the SWC's would like the opportunity to review and approve the preliminary draft Study Plans with the understanding they may not be complete. Ralph Torres of DWR agreed and expressed hope that we could reach a comfort level on the preliminary draft Study Plan concepts and only add to the level of detail.

Art Hinojosa of DWR made a brief presentation on the status and tracking of E&O Study Plan coordination; the Study Plan coordination presentation is included as Attachment 5. Some of the key elements Art emphasized were:

- Identify linkage with Study Plans from other Work Groups – A Coordination meeting for study leads from all Work Groups was held and discussions continue to occur as Study Plans are developing
- Establish a contact person for each study coordination element – Lead will be able to discuss specific details
- Determine specific needs
- Streamline and consolidate needs to feed model development and simulations

The next step is to transmit model output to interested parties. Stuart Edell of Butte County asked if the coordination matrix would be available for the next Work Group meeting; the Facilitator agreed to consult with DWR on this matter.

Ken Kules of MWD asked if there would be a peer review process and stated that MWD would like to provide input on erosion. Will Harris and Steve Reynolds, both with State of California Division of Mines and Geology, asked him to discuss those concerns at this meeting and the Environmental Work Group meetings.

Ralph Torres indicated that in addition to the coordination matrix, there is a schedule being developed to indicate when information is needed, who needs it, what the milestones are, etc. Craig Jones asked if there is a plan to do this coordination for other Work Groups. Bill Smith stated that he is working on a flow chart showing linkage between E&O studies with other studies.

Study Plan Review

The Engineering and Operations Work Group reviewed Study Plan presentations by Bill Smith and Rashid Ahmad of DWR. The presentations are included in Attachments 6 through 17. Revised preliminary draft Study Plans are included as Attachments 18 through 30. Specific issues raised and addressed relative to individual preliminary draft Study Plans include the following:

- **Study Plan No. 1- Model Development Study Plan**

One participant asked what time frame would be used for the modeling. Bill Smith explained the purpose is to obtain long-term trends. It was suggested to include modeling for the upstream area for different climatic conditions. Wayne Dyok explained that the Environmental Work Group is looking at modeling the different climatic conditions for the area upstream of the reservoir. Tres Hobbie of CEFER stated the locals are concerned with lake levels, the natural flow, and what it would be like if the dam was not built. Wayne Dyok reiterated that the baseline conditions are with the Dam, and pre-Project conditions were not going to be studied in great detail.

- **Study Plan No. 1a – Statewide Operations Model Development**

Bill Smith recommended using CALSIM II to simulate Oroville Facilities operations. He explained that CALSIM II is the only existing model that simulates the Oroville Facilities, and it would not be cost effective to develop a new model. The Work Group agreed to use CALSIM II.

- **Study Plan No. 1b – Local Operations Model Development**

Engineering and Operations Work Group participants agreed to coordinate with other Work Groups affected by any particular model and present recommendations to the Plenary Group. This was acknowledged to be an iterative process. Craig Jones of SWC stated that the best model he has seen is Chuck Howard's model, and stated the Work Group should review the model. Wayne Dyok noted that he was familiar with Howard's model and will provide Bill with Chuck's contact information.

- **Study Plan No. 1c – Oroville Reservoir Temperature Model Development**

Bill Smith discussed temperature modeling for the reservoir and the constraints associated with controlling downstream flows to meet fishery and agricultural needs. The temperature model will simulate temperatures for different operating alternatives.

- **Study Plan No. 1d – Thermalito Complex Temperature Model Development**

Bill Smith indicated that the Work Group has not addressed ground water modeling. Wayne Dyok suggested that ground water modeling would not be needed until the analysis considers downstream flows. Flows models will encompass ground water flows. Ralph Torres mentioned that studies were done in the 70's and 80's that estimated seepage quantities from the reservoir.

- **Study Plan No. 1e – Feather River Temperature Model Development**

Bill stated the Feather River temperature Study Plan set up the tools to model selected alternatives, while actual alternatives will come from other Work Groups. Ken Kules asked how the model would account for changed land use along the Feather River. Bill responded that if land use scenarios need to be addressed, the model could be run with and without different land uses.

- **Study Plan No. 1f – Feather River Flow-Stage Model Development**

Ken Kules indicated that he contacted the U.S. Army Corps of Engineers about flood analysis, and they e-mailed section data on a HecRas run for the River Bend Park area at 100-foot intervals with cross-sections. Bill Smith responded that he would like to receive any information on known models for his reference.

- **Study Plan No. 2 – Perform Modeling Simulations**

A discussion was held about identifying Work Groups interested in a particular model and gathering in the form of a task force to coordinate output and parameters. After the task force meets, the results would be used to establish protocols for data generation before the model is run and output is generated. Following completion and verification of the output the information could go to the Plenary Group for final review.

- **Study Plan No. 4 – Measures to Improve Flood Protection Provided by Oroville Facilities**

Craig Jones stated that significant suggestions have been given for rewriting preliminary draft Study Plan 4. It was agreed that preliminary draft Study Plan 4 should not go to the Plenary Group until after the flood workshop. Craig also suggested that the title be changed to 'Flood Management Study'. Ralph Torres suggested a meeting be held with DWR and SWC to discuss the changes and the Corps should also be approached for clarification of responsibility. Revisions would then be re-distributed to Engineering and Operations Work Group participants.

Next Steps

The Engineering and Operations Work Group agreed that DWR and the consulting staff would take comments on the preliminary draft Study Plans and add them to the final product so long as they do not change the main objectives and concepts as described in the presentation and that all preliminary draft Study Plans would continue to be worked on after the December 11, 2001 Plenary Group meeting. Participants discussed availability of a critical path MS Project file. Ralph Torres offered to consider the request. It was also agreed that the Facilitator would work with the appropriate parties to include a section on the status of the preliminary draft Study Plans in each executive summary, identifying sections of the Study Plan that still need improvement.

Next Meeting

The Engineering and Operations Work Group agreed to meet as a Task Force/Work Group on:

Date: December 5, 2001
Time: 10:00 a.m. – 3:00 p.m.
Location: Oroville Field Division

Agreements Made

The Engineering and Operations Work Group agreed to use CALSIM II.

The Engineering and Operations Work Group agreed to postpone submittal of Study Plan SP-E4 until after a Flood Management Workshop.

Action Items

The following list of action items identified by the Engineering and Operations Work Group includes a description of the action, the participant responsible for the action and item status.

Action Item #EO26: Hold a flood management workshop that would include representatives from the Comprehensive Study, Yuba County, etc.

Responsible: Ralph Torres/ Rashid Ahmad

Due Date: Update December 5, 2001

Action Item #EO27: Prepare a description of the issue transfer process, identify point people within other Work Groups, and outline the proposed approach to evaluating power economics, including the relationship to socioeconomic studies.

Responsible: Wayne Dyok

Due Date: December 5, 2001

Action Item #EO28: Coordinate with Cultural on potential to expand APE to capture potential downstream erosion.

Responsible: Ralph Torres/Janis Offermann

Due Date: On-going

Action Item #EO29: Get results from the 2030 simulation model from DWR when available.

Responsible: Bill Smith

Due Date: When available

Action Item #EO30: Check on the availability of the MS Projects Critical Path file.

Responsible: Ralph Torres

Due Date: December 5, 2001

Action Item #EO31: Check with Steve Reynolds about ground water seepage issue.

Responsible: Ralph Torres

Due Date: Update December 5, 2001

Action Item #EO32: Review SWC comments on Study Plan 4. Complete revisions and redistribute to the Work Group.

Responsible: DWR/Consulting Team

Due Date: December 5, 2001

Action Item #EO33: Contact comprehensive study representatives from Stewart Edell's contact information and invite appropriate people to the December 5, 2001 Work Group meeting.

Responsible: Bill Smith
Due Date: December 5, 2001

Action Item #EO34: Include section on Study Plan status in Study Plan summaries.
Responsible: Facilitator
Due Date: December 11, 2001